

**The Knowledge Bank at The Ohio State University**  
**Ohio State Engineer**

**Title:** Back Matter

**Issue Date:** Jan-1925

**Publisher:** Ohio State University, College of Engineering

**Citation:** Ohio State Engineer, vol. 8, no. 2 (January, 1925), 30-32.

**URI:** <http://hdl.handle.net/1811/33709>

**Appears in Collections:** [Ohio State Engineer: Volume 8, no. 2 \(January, 1925\)](#)

## GOOD LIGHTING OF INDUSTRIAL PLANTS SECURES SAFETY AND EFFICIENCY.

The Code of Lighting for factories, mills and other work places of the State of New Jersey makes excellent recommendations of daylight for the proper lighting of industrial buildings.

Adequate daylight facilities through large window areas, together with light, cheerful surroundings, are highly desirable and necessary features in every work place, and they should be supplied through the necessary channels, not only from the humane standpoint, but also from the viewpoint of maximum plant efficiency.

### Importance of Daylight.

The unusual attention to gas and electric lighting in factories, mills and other work places during the past few years; the perfection of various lamps and auxiliaries, by means of which an improved quality and quantity of lighting effects are obtained; and the care which has been devoted to increasing the efficiency in various industrial apparatus—all go to emphasize the many advantages and economies that result from vital and adequate window space, as a means for daylight in the proper quantities, and in the right direction during those portions of the day when it is available.

### Three Considerations.

Three important considerations of any lighting method are sufficiency, continuity and diffusion, with respect to the daylight illumination of interiors. Sufficiency demands adequate window area; continuity requires (a) large enough window area for use on reasonably dark days, (b) means for reducing the illumination when excessive, due to direct sunshine, and supplementing lighting equipment for use on particularly dark days, and especially towards the close of winter days, (c) diffusion demands interior decorations that are as light in color as practicable for ceilings and upper portions of walls, and of a dull or matt finish, in order that the light which enters the windows or that which is produced by lamps may not be absorbed and lost on the first object that it strikes; but that it may be returned by reflection and thus be used over and over again.

Diffusion also requires that the various sources of light, whether windows, skylights or lamps, be well distributed about the space to be lighted. Light colored surroundings as here suggested result in marked economy, but their main object is perhaps not so much economy as to obtain results that will be satisfactory to the human eye.

### Requirements for natural lighting:

1. The light should be adequate for each employee.
2. The windows should be so spaced and located that daylight is fairly uniform over the working area.
3. The intensities of daylight should be such that artificial light will be required only during those portions of the day when it would naturally be considered necessary.
4. The windows should provide a quality of daylight which will avoid a glare, due to the sun's rays, and light from the sky shining directly into the eye, or where this does not prove to be the case at all parts of the day, window shades or other means should be available to make this end possible.

As will be noticed in the above recommendations, large windows and proper diffusion of daylight are urged, in order to meet the demands of daylight lighting.

Shades may be eliminated and most efficient lighting obtained by the use of Factrolite Glass.

If interested in the distribution of light through Factrolite, we will send you a copy of Laboratory Report—"Factrolited."

MISSISSIPPI WIRE GLASS CO.,

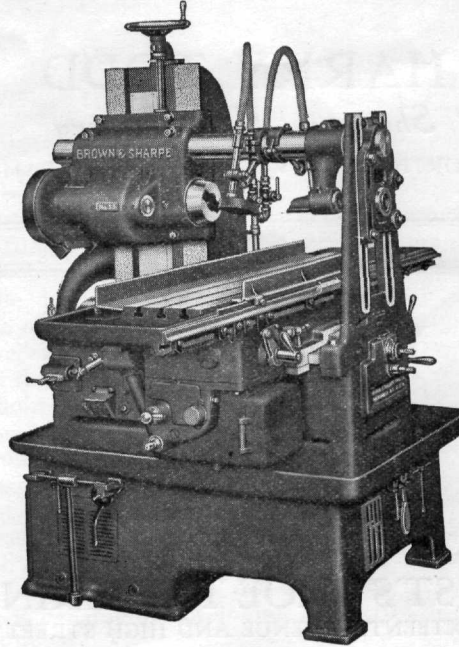
220 Fifth Avenue,

St. Louis,

New York.

Chicago.

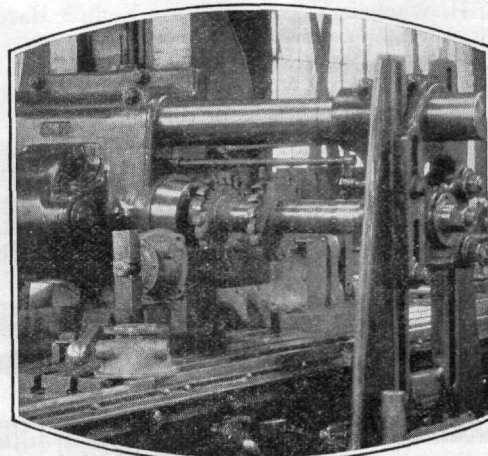
## For Cutting Costs on High Production Work



### BROWN & SHARPE Automatic Milling Machines

THESE modern machines cut manufacturing costs by practically eliminating non-productive time. They are fully automatic in operation, leaving the operator free to unload and load the work holding fixtures. The Constant Fast Table Travel keeps the cutters busy almost continuously—it practically eliminates non-cutting time. Write for a copy of the new Catalog describing them and learn how they economize on milling operations.

BROWN & SHARPE MFG. CO.  
Providence, R. I., U. S. A.



Straddle Milling Universal Joint Housings

# What will you remember from your college training?

AS THE YEARS go by you will forget much of the material you are collecting now — BUT — *be sure you don't forget the FUNDAMENTALS!* Ground yourself so thoroughly in them that they are second nature to you. Never lose your grip on the basic principles!

The ABC of Good Paving, proved by long years of traffic service, is condensed for you into the panel at the right.

VITRIFIED  
**Brick**  
PAVEMENTS

Alton Brick Company  
Alton, Ill.  
Binghamton Brick Company  
Binghamton, N. Y.  
Central Clay Products Co.  
(Distributors MACK Paving Brick)  
Wilkes-Barre, Pa.  
Cleveland Brick & Clay Company  
Cleveland, Ohio  
Clydesdale Brick & Stone Co.  
Pittsburgh, Pa.  
Coffeyville Vitrified Brick & Tile Co.  
Coffeyville, Kans.  
Collinwood Shale Brick Company  
Cleveland, Ohio  
Francis Vitric Brick Company  
Boynton, Okla.  
Georgia Vitrified Brick & Clay Co.  
Augusta, Ga.  
Globe Brick Company  
East Liverpool, Ohio  
Hysylvania Coal Co.  
Columbus, Ohio  
Hocking Valley Brick Company  
Columbus, Ohio  
Independence Paving Brick Co.  
Independence, Kans.  
Metropolis Paving Brick Co.  
Pittsburg, Kansas  
Metropolitan Paving Brick Co.  
Canton, Ohio  
Mineral Wells Paving Brick Co.  
Mineral Wells, Texas  
Moberly Paving Brick Company  
Moberly, Mo.  
Murphysboro Paving Brick Co.  
Murphysboro, Ill.  
Nelsonville Brick Co.  
Nelsonville, Ohio  
Peebles Paving Brick Company  
Portsmouth, Ohio  
Purinton Paving Brick Company  
Galesburg, Ill.  
Southern Clay Mfg. Company  
Chattanooga, Tenn.  
Springfield Paving Brick Company  
Springfield, Ill.  
Sterling Brick Company  
Olean, N. Y.  
Streator Clay Mfg. Company  
Streator, Ill.  
Thornton Fire Brick Co.  
Clarksburg, W. Va.  
Thurber Brick Company  
Ft. Worth, Texas  
Toronto Fire Clay Company  
Toronto, Ohio  
Trinidad Brick & Tile Company  
Trinidad, Colo.  
Veedersburg Paver Company  
Veedersburg, Ind.  
Western Shale Products Company  
Fort Scott, Kans.  
Westport Paving Brick Company  
Baltimore, Md.

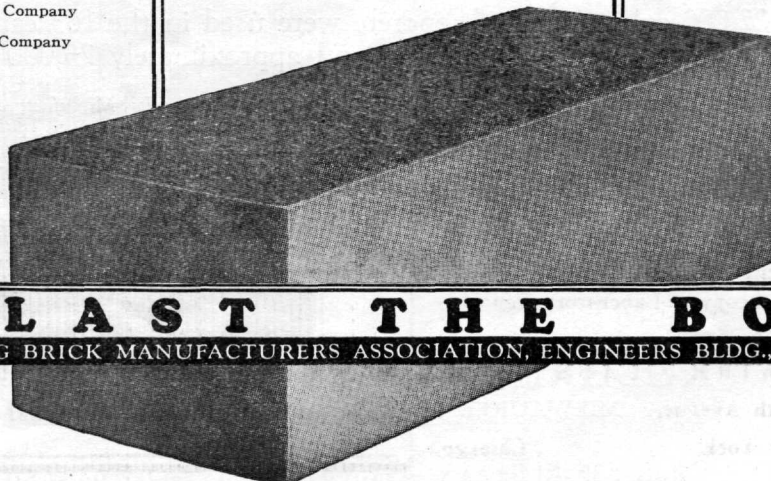
## The ABC of Good Paving

**A**SPHALT for *Filler* because it makes the traffic-bearing surface a water-proof, flexible armor not subject to the cracks which follow rigid slab construction, and because repair costs are insignificant where each brick is an easily removable unit.

**B**RIK for *Surface* because it furnishes the best surface for traffic; *hard*, but not brittle—*tough*, but not rough—*dense*, and non-absorbent—*smooth*, but not “slick”; because its fire-hardened toughness resists wear and tear so sturdily that upkeep expense is squeezed to a minimum and because any margin of higher first-cost is speedily offset by low maintenance, long life and uninterrupted service.

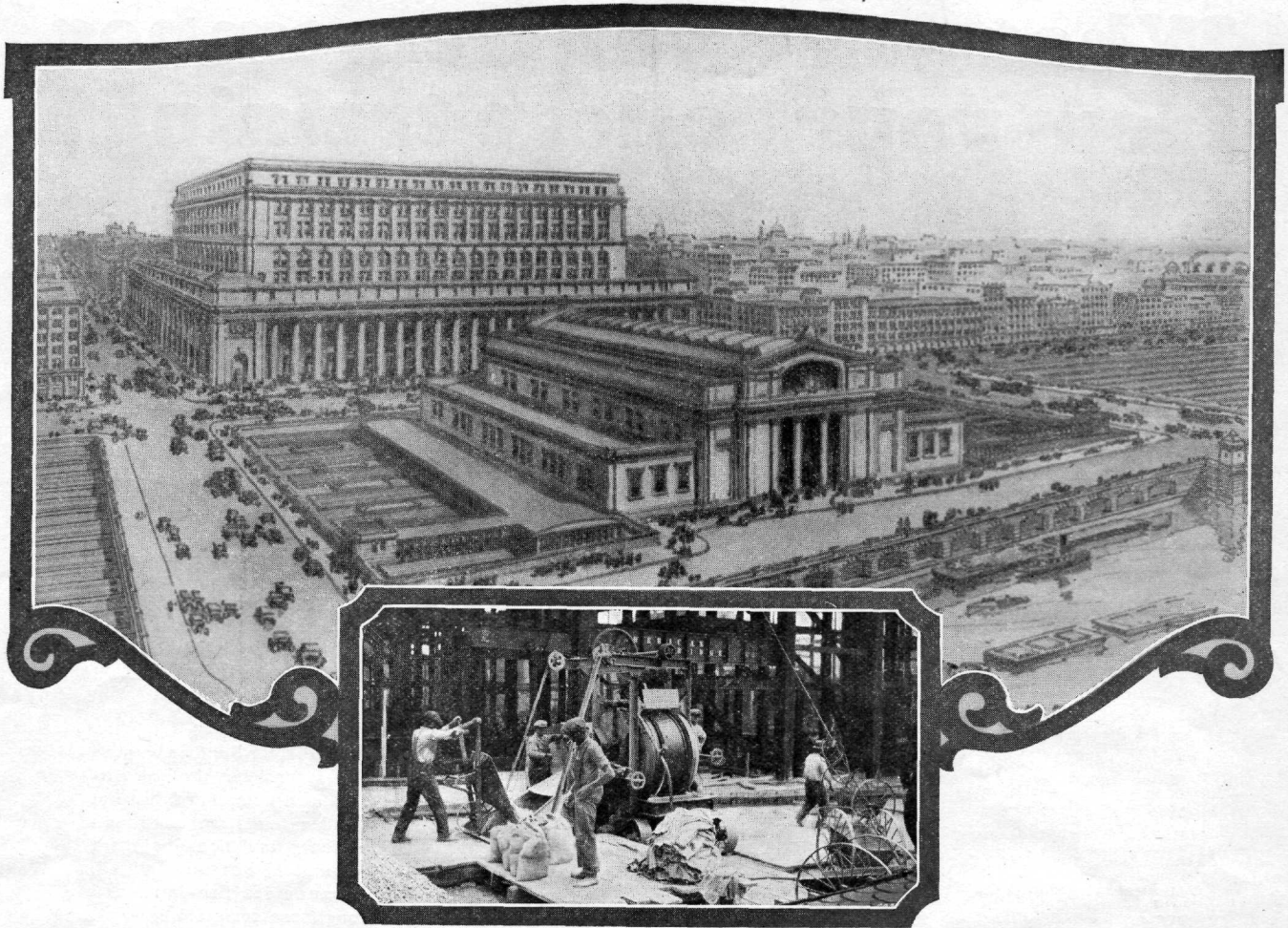
**C**ONCRETE, CRUSHED ROCK, CRUSHED SLAG OR GRAVEL for *Base* because some one of these bases meets any conceivable sub-soil condition, and with a bedding course of sand or screenings makes the best sub-structure yet developed for modern street or highway traffic.

Send for free handbook, “THE CONSTRUCTION OF BRICK PAVEMENTS.”



**OUTLAST THE BONDS**  
NATIONAL PAVING BRICK MANUFACTURERS ASSOCIATION, ENGINEERS BLDG., CLEVELAND, OHIO





## New Union Station, Chicago, and Koehring

THE new terminal of the Chicago, Milwaukee and St. Paul, Chicago, Burlington and Quincy, Chicago and Alton and Pennsylvania railroads now being completed, will be the finest railway station in the world. Covering two entire blocks, the value of the buildings alone is \$15,000,000.

Caisson work, retaining walls, substructures; concrete arches, superstructure—the concrete work throughout on this Union Station is another product of Koehring Concrete Mixers.

Over 22,000 cubic yards of concrete were used in the 163 caissons, retaining walls and substructures; and approximately 25,000 cubic yards additional were required for the arches and superstructural work.

Koehring Mixers and Pavers are identified with the noteworthy building and road construction projects in all parts of the country.

"Concrete—Its Manufacture and Use", now in its fourth edition, is a 207 page treatise on the uses of concrete, including 26 pages of tables of quantities of materials required in concrete paving work. To engineering students, faculty members and others interested we shall gladly send a copy on request.

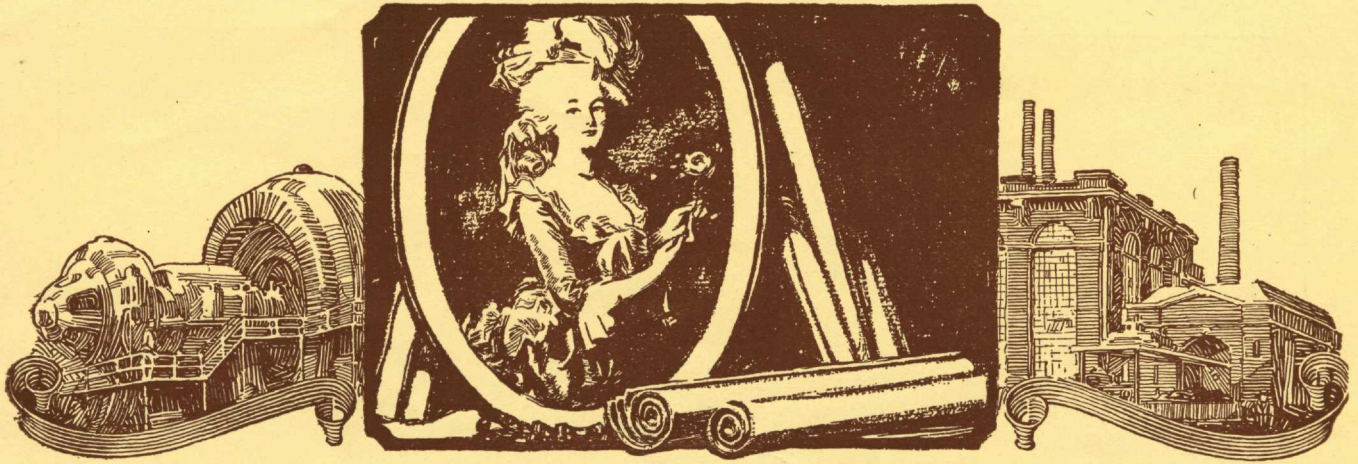
**KOEHRING**  
MILWAUKEE



**COMPANY**  
WISCONSIN

*Manufacturers of Pavers, Mixers—Gasoline Cranes, Draglines, Shovels*





## ART PRINTS AND BLUE PRINTS

Painters, authors, and musicians win fame and fortune by transmitting their conceptions to paper. Achievement can be completed merely with such expression of an idea. Not so with engineering. The design of a turbine or of a flat iron, once it is created, is not placed upon a pedestal in a millionaire's mansion, or in an art museum. It immediately goes into the shop—there to be executed. Its success is measured by the degree to which it fits manufacturing requirements. If it can't be manufactured economically it is a failure.

In an organization like Westinghouse there is a group of engineers whose chief interest and concern is the efficient, economical, large scale manufacture of electrical products. These men may be electrical engineers

or mechanical engineers. They are primarily interested in shop practice and methods—in the same industrial problems as are the manufacturing customers whom Westinghouse serves.

The founder of Westinghouse was such an engineer. He possessed a marvelous faculty to inspire workmen and executives alike; there are many tales of men working nights and Sundays to help him complete a cherished plan.

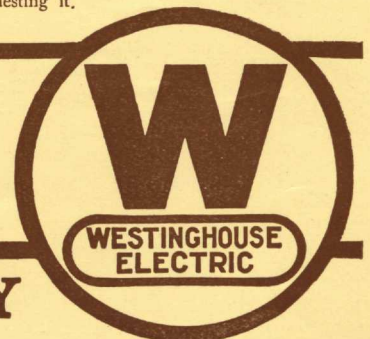
Throughout all industry there is a call for men qualified as manufacturing engineers who can combine materials, machines, men, and methods with better and more efficient results.

Such men find pleasure and inspiration at Westinghouse—developing apparatus to help other manufacturing executives solve similar problems in every kind of industry.

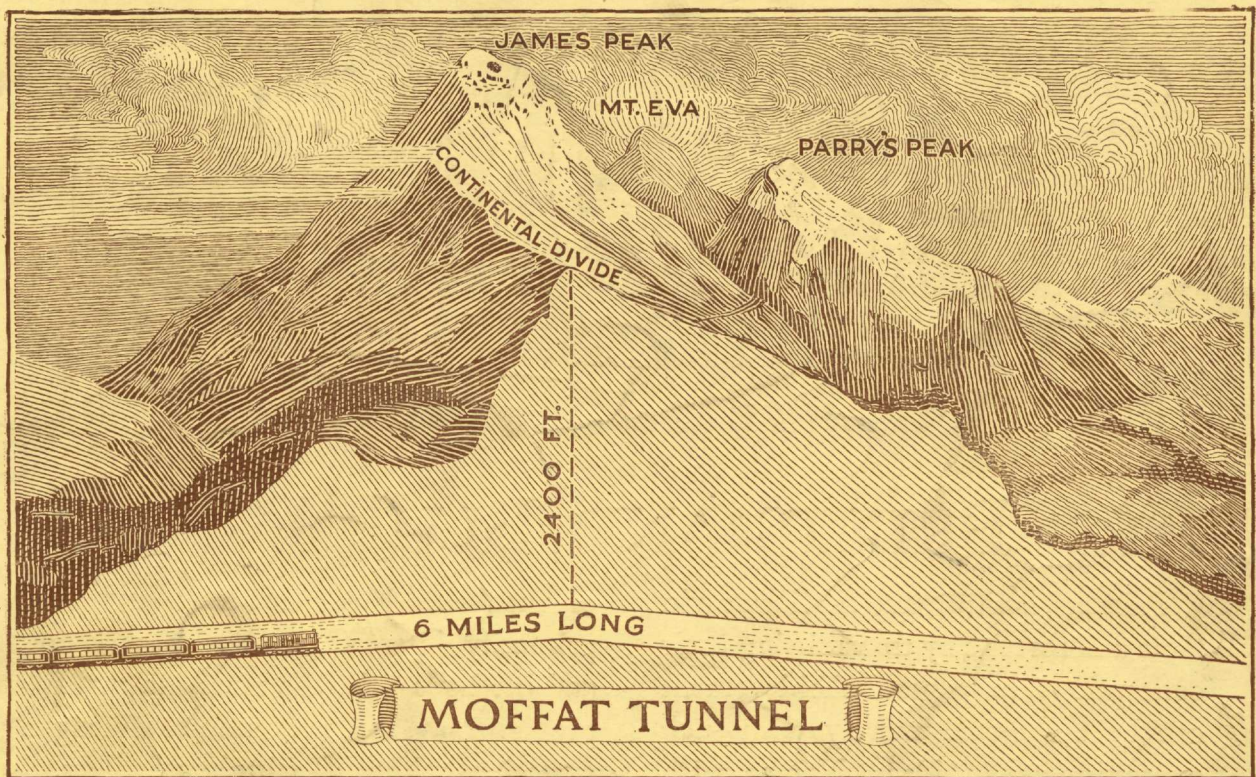
This advertisement is fifth in a vocational series, outlining the fields for engineering achievement in the Westinghouse organization. Copies of the entire series will be sent to anyone requesting it.

# Westinghouse

## ACHIEVEMENT & OPPORTUNITY







## Piercing the Great Divide



The General Electric Company includes many specialists—engineers who know about tunnels; engineers who know about street lighting; engineers who know about the electrification of factories. These men are helping to build the better and happier America in which *you* will live.

If you are interested in learning more about what electricity is doing, write for Reprint No. AR391 containing a complete set of these advertisements.

West of Denver is the Continental Divide; hemmed in behind it is an undeveloped district twice as large as Maryland. That fertile area the new Moffat Tunnel will open up.

General Electric mine locomotives are carrying out the rock, and G-E motors are driving air compressors and pumping water from underground rivers.

The conquests of electricity on land and sea, in the air and underground, are making practical the impossibilities of yesterday. It remains only for men of ability to find new things to do tomorrow. Thus does Opportunity of 1925 beckon college men and women toward greater things as yet undreamed, and to a better world to live in.

95-947DH

# GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, NEW YORK